Claims

We claim:

1. A multi-analyte assay wherein capture reagents are used to detect analytes in a sample, wherein a negative control value used in calculations to determine the presence or absence of an analyte in the sample is determined by a method comprising contacting the sample with at least one negative control reagent attached to a solid support, wherein the negative control reagent is of similar molecular structure to at least one capture reagent, but which does not specifically bind to any entity in the sample; wherein said assay further comprises quantifying the extent of any reaction between the sample and the negative control reagent, and recording a value representing the extent of this reaction.

2. The assay, according to claim 1, wherein at least one analyte is selected from the group consisting of antibodies and antigens.

3. The assay, according to claim 1, wherein the sample is selected from the group consisting of serum, tissue and urine.

4. The assay, according to claim 1, wherein the assay is performed on a human sample and at least one negative control reagent is a non-human protein that does not specifically bind with any analytes in the sample.

5. The assay, according to claim 1, wherein the solid support is selected from the group consisting of beads, wells, membranes and microarrays.

6. The assay, according to claim 1, further comprising the step of subtracting from the negative control value a background value representing the reaction between a detection molecule and at least one capture reagent attached to the solid support.

7. The assay, according to claim 1, wherein the negative control agent is an entity that has physical and/or chemical properties in common with a capture reagent.

8. The assay, according to claim 7, wherein said physical and/or chemical properties include a property selected from the group consisting of molecular weight, charge, solubility, tertiary structure, and conformation.

9. A multi-analyte assay wherein a negative control value used in calculations to determine the presence or absence of an analyte in a sample is determined by a method comprising contacting the sample with a plurality of capture reagents, measuring the reaction of the sample with each of the capture reagents and using, as a negative control value, the lowest of the measured reactions or an average of low reactions.

10. The method, according to claim 9, wherein said analyte is selected from the group consisting of antibodies and antigens.

11. The method, according to claim 9, wherein said sample is selected from the group consisting of serum, tissue and urine.

12. The method, according to claim 9, wherein the solid support is selected from the group consisting of beads, wells, membranes and microarrays.

13. The assay, according to claim 9, further comprising the step of subtracting from the negative control value a background value representing the reaction between a detection molecule and at least one capture reagent attached to the solid support.

14. A multi-analyte assay wherein a negative control value used in calculations to determine the presence or absence of an analyte in a sample is determined by a method comprising contacting the sample, in addition to a plurality of capture reagents, with at least two negative control reagents attached to at least two solid supports or different

areas of a solid support, wherein the at least two negative control reagents are entities that cannot specifically bind to any entity in the sample; wherein said assay further comprises quantifying the extent of any reaction between the sample and the negative control reagents, recording the values representing the extent of these reactions, and identifying the average value among said values, wherein the negative control value is said average value.

15. A multi-analyte assay according to claim 11, wherein a negative control value is selected and a corresponding calculation is performed based on values obtained for each of the at least two negative control reagents and the extent of any sample reaction is based on the results of one or more of the calculations.

16. The assay, according to claim 14, wherein said analyte is selected from the group consisting of antibodies and antigens.

17. The assay, according to claim 14, wherein said sample is selected from the group consisting of serum, tissue and urine.

18. The assay, according to claim 14, wherein the solid supports are selected from the group consisting of beads, wells, membranes and microarrays.

19. The assay, according to claim 14, wherein at least three negative control reagents are used.

20. The assay, according to claim 14, wherein at least one of said negative control reagents is an entity that has physical and/or chemical properties in common with at least one capture reagent, but which does not specifically bind to any entity in the sample.

21. The assay, according to claim 14, wherein said physical and/or chemical properties include a property selected from the group consisting of molecular weight, charge, solubility, tertiary structure, and conformation.